T 1998/34 **AGSO** I International Year of the Ocean eopy 2 I I I I T D Sustainability in I Marine and Coastal I I Environments -Į) I) A Canberra Forum D I I) Į) LIBRARY Record 1998/34 Į) 1 5 DEC 1998 Į) I) U Į) U U U U U U U U U U U BMR COMP 1998/34 U copy 2

# Sustainability In Marine and Coastal Environments

# **A Canberra Marine Forum**



1998 International Year of the Ocean Activity

# DEPARTMENT OF INDUSTRY, SCIENCE & RESOURCES

Minister for Industry, Science & Resources: Senator the Hon. Nick Minchin Secretary: Russell Higgins

# AUSTRALIAN GEOLOGICAL SURVEY ORGANISATION

Executive Director: Dr Neil Williams

ISSN: 1039-0073 ISBN: 0 642 27371 5

# © Commonwealth of Australia 1998

This work is copyright. Apart from any fair dealings for the purposes of study, research, criticism or review, as permitted under the *Copyright Act 1968*, no part may be reproduced by any process without written permission. Copyright is the responsibility of the Executive Director, Australian Geological Survey Organisation. Inquiries should be directed to the Executive Director, Australian Geological Survey Organisation, GPO Box 378, Canberra City, ACT, 2601

AGSO has tried to make the information in this product as accurate as possible. However, it does not guarantee that the information is totally accurate or complete. Therefore, you should not rely solely on this information when making a commercial decision.

# **CONTENTS**

# **Executive Summary**

Objectives of the forum	page 1
Forum Summary	page 1
Australian Geological Survey Organisation Overview of Marine Science in AGSO Urban and Coastal Impacts Law of the Sea Seabed Mapping	page 2
Department of Industry Science and Tourism Overview of Development of the Marine Science and Technology Plan	page 3
AUSLIG  Marine Boundaries Program  Spatial Data Infrastructure Program	page 4
Environment Australia Oceans Policy ERIN Marine Protected Areas Biodiversity / Wildlife Marine Air and Water	page 5
Attorney Generals Department Role of AG's in Marine and Coastal Environments	page 7
Department of Primary Industry and Energy Petroleum and Fisheries Division	page 7
Bureau of Resource Sciences Advanced Research and Development Centre Petroleum Resources Branch	page 7

# **CONTENTS CONT'D**

Mineral Resources and Energy Branch Fisheries Branch	page 8
Australian National University Research School of Earth Sciences	page 9
CSIRO Land and Water Division	page 10
Australian Defence Forces Academy Oceanography Group Geography and Oceanography	page 10
Aquatech Environment, Economics and Information	page 11
Australian Marine Safety Authority Navigational Service Policy and Planning	page 11
Australian Fisheries Management Authority	page 12
Australian and New Zealand Land Information Council Marine Data and Australian Spatial Data Infrastructure	page 12
Australian Heritage Commission	page 13
Discussion and Wrap Up	page 13
Contact List – Canberra Forum Participants	

# **Executive Summary**

# Canberra Forum - Sustainability in Marine & Coastal Environments

As the UNESCO International Year of the Ocean draws to a close, scientific groups, Government Agencies and Industry Associations reflect on the success of the Canberra Forum on Sustainability in Marine and Coastal Environments.

This inaugural forum, held appropriately at a waterside conference venue on the shores of Lake Burley Griffin, was promoted as an opportunity for marine-focussed groups in the Canberra region to meet and exchange information about marine issues. Participants represented a broad spectrum of agencies with responsibility for managing various aspects of Australia's marine jurisdiction.

Opening comments by Dr. Chris Pigram of the Australian Geological Survey Organisation (convenors of the forum) pointed to the challenges facing marine management authorities in changing the general public perception that a spatial representation of Australia is the well known geography of its land mass. The reality is that 61% of Australia's jurisdiction lies offshore while globally more than 71% of the earth's surface is covered by oceans. This massive marine environment plays a 'crucial role in our life supporting system' and the earths climatic conditions.

With these larger global truths in the back of their minds, a more regional focus had the attention of the group at the Canberra forum. With the end of OCEAN98 fast approaching it was Australia's own marine policy and planning issues that dominated. With primary responsibility for the development of the Marine Science and Technology Plan, underpinning marine sustainability, the Department of Industry, Science and Tourism represented by the guest speaker, Phil Diprose, presented the MS&TP in summary format. The emphasis in his delivery was the three program areas:

- understanding the marine environment,
- using and caring for the marine environment, and
- development of an infrastructure for understanding the marine environment.

The MS&TP and the complementary Oceans Policy that is being developed through Environment Australia, are both due for completion this year. The Oceans Policy document outlined by Phil Burgess at the forum will initially concentrate on the management of the southeast region of Australia's marine jurisdiction.

A full day program of twenty-six speakers from agencies having a marine focus presented a profile of the organisations, groups or projects. Agencies represented at the forum fell into four major categories:

- data collection, storage and management groups (AUSLIG, ANZLIC and ERIN),
- marine research organisations (AGSO, CSIRO, ANU and ADFA),
- marine protection and conservation groups (EA and AMSA), and
- policy, advisory and consulting groups promoting sustainable development in marine environments (AFMA, BRS, DPIE, Aquatech).

At the close of the forum several proposals were adopted to strengthen communication between participants and ensure continuation of discussion of relevant marine issues. Notable among the proposals was agreement that the group would continue to meet and communicate on an 'as needs basis', that the group would be known as the Canberra Marine Forum under the guidance of a steering committee, and that a web-based list server would be established to facilitate ongoing communications.

#### Acronyms

AUSLIG - Australian Survey & Land Information Group

ANZLIC - Australian and New Zealand Land Information Group

ERIN - Environmental Resources Information Network

ADFA - Australian Defence Force Academy

AMSA - Australian Marine Safety Authority

AFMA - Australian Fisheries Management Authority

BRS - Bureau of Resource Sciences

DPIE - Department of Primary Industry & Energy

For information about the forum contact Phillip Fletcher at the Australian Geological Survey Organisation on Ph: (02 6249 9546) OR email: (Phillip.Fletcher@agso.gov.au)

# Year of the Ocean—Canberra forum

#### **WEDNESDAY 14 OCTOBER 1998**

# Objectives of the forum.

Australia is a maritime nation with considerable offshore responsibilities and interests. The forum was set up as a networking exercise to bring together the diverse group of Canberra area people working in fields relevant to sustainability in marine environments. Representatives came mainly from a range of government and semigovernment organisations.

Speakers ranged across a broad spectrum of responsibilities and interests in coastal and marine environments. They included people from research establishments, advice bureaus, policy, and regulatory and policing authorities. Some organisations had responsibilities across these sectoral boundaries.

Speakers gave a brief outline of their organisation and activities relevant to the forum.

#### SUMMARY

Forum representatives most common areas of interest were in:

- data collection, storage and management;
- resource exploitation;
- · environmental protection; and
- research of processes and change.

# Main issues raised included:

- collection, storage, management, analysis and presentation of data;
- mapping of both topography and resources;
- resource use including fisheries, petroleum, tourism and some minerals;
- environmental issues including pollution, and protection of biodiversity, wildlife and ecological communities; environmental issues were addressed both from catchment, and from coastal and oceans perspectives;
- marine safety;
- marine heritage:
- the Oceans Policy;
- the Marine Science and Technology Plan which is being developed to understand, use and care for the marine environment; the plan is also developing the infrastructure to carry out its aims;
- Law of the sea (mapping and justification of possible Australian offshore territory);
- legal and legislative issues relating to the coastal and ocean environments.

# 1. Australian Geological Survey Organisation

#### Overview of marine science in AGSO

Speaker: Chris Pigram

This group sees a major challenge in changing the general perception that a spatial representation of Australia looks like the land mass (c/f traditional maps). They stressed that Australia is a maritime nation; 80% of Australians live within 100 km of the ocean; at least 61% of the jurisdiction is offshore, with only 39% onshore. Australians have spent the first 200 years focusing on the land. Australia has a role in managing the seas and a focus on the sea is therefore needed.

Issues of importance to AGSO include:

- marine mapping;
- the interaction between the sea floor and the water column and the implications of land based pollution which reaches the sea;
- promotion of petroleum exploration and development and the importance of these products in Australia's balance of payments.

# Urban and coastal impacts

Speaker: David Heggie

This group is involved in research concerning sedimentary materials that are discharged into estuaries and the sedimentary, biological and chemical processing that then takes place on the sea bed. Material is either processed and returned to the water or buried and lost. AGSO research is aimed at providing advice to help devise strategies for waste sediment water management.

The group has conducted projects:

- looking at nutrient discharge into the Brisbane River and into Moreton Bay;
- using new technology to trace ocean outfalls in the Sydney region;
- investigating nutrient discharge in Port Philip Bay;
- looking at petroleum produced formation water discharged from platforms in the Bass and NW shelf areas;
- examining sediment and water quality in Wilson Inlet in WA;
- looking at the water quality of the Swan and Canning rivers before they reach the sea.

The group is keen to improve their interface with service providers and clients, and are seeking clarification of these groups.

#### Law of the sea

Speaker: Phil Symonds

This project is working on defining the boundary of Australia's marine jurisdiction. The group drew attention to the exclusive economic zone, the extended continental shelf and the need to develop data to support claims to this latter to give Australia rights to

both living and non-living resources below the sea bed. This work must be complete by 2004 when a submission to the UN is required

The group has been doing survey work using ships of opportunity to determine morphology and sediment thickness. Other outcomes include resource mapping, location of new resources, understanding the environment and looking at the science to give an ultimate outcome of improved management.

The survey stage is complete and data is now being interpreted, GIS prepared, and involvement with AUSLIG, AGs and the CLCS will occur.

Decisions still need to be taken concerning the marine region of Antarctica. Extensions of time may be given for this area.

# Seabed mapping

Speaker: Neville Exon

Australia has claims to a very large offshore area. It needs to be managed. But in order to do this they need to know what is there. The group is using swath-mapping to obtain images, followed by sampling to check data. Ships use a multibeam sonar system to map a large area very quickly and accurately. This technique has been used in geological surveys, for fisheries and for the Law of the Sea work. An example from the orange roughy fishery where swath-mapping has located submarine volcanoes around which the fish congregate was cited. Such information makes fishing more certain and economic. It can also result in areas being fished out and can be used to set up marine parks to preserve species.

Accuracy of swath-mapping varies with depth and is comparable with satellite imagery.

This is a long term project. At two months per year it would take 30 to 40 years to complete the area beyond the continental shelf. The navy has its own priorities and can only do up to certain depths. The group has a memorandum of understanding with the navy to take over data they no longer require.

# Projects include:

- identification of volcanoes in orange roughy fisheries;
- identification of corals as fish hatcheries;
- mapping of the Bass canyon complex for petroleum exploration and fisheries;
- mapping of the Kerguelen Plateau and subsequent sampling to show its relation to the Australian mainland.

#### 2. Department of Industry Science and Tourism

# Overview of development of the Marine Science and Technology Plan

Speaker: Phil Diprose

Commitment to the Plan was made in 1995 with the primary responsibility for its development being given to DIST who are working in conjunction with Environment Australia (EA). A working group was appointed with representatives from a range of government, industry and academic groups including AGSO, AIMS and CSIRO to bring expertise and objectivity.

A link to the Oceans Policy (being developed by EA) was considered essential.

The Plan covers three program areas:

- understanding the marine environment;
- using and caring for the marine environment;
- development of an infrastructure for understanding the marine environment.

The Plan stresses the need for a coordinating body, and for equipment and research; suggests scholarships in ares of deficiency (e.g. taxonomy); and promotes data management. It recognises the importance of work done overseas and stresses the need for recognition of issues within the community and in schools.

Feedback from some areas of the private sector include:

- shipping feel that they have no R&D needs;
- tourism has a very different focus;
- fishers are worried that more research will mean a reduction in catch quotas;
- petroleum has extensive R&D but are very competitive.

It was noted that the National Petroleum Data Strategy could tie in industry data.

The Plan puts an action plan for the next 10 to 15 years on the board with implementation for the shorter term. It encourages synergies and reflects submissions.

The Plan does not commit the government. Any action will have to be negotiated.

Plan is due for completion this year but it will be launched either concurrent to or after the Oceans Policy.

## **AUSLIG—Marine Boundaries Program**

Speaker: Bill Hirst

AUSLIG is the commonwealth mapping agency and geodesy program (monitoring the shape of the Earth). They use remote sensing and are involved in the definition of marine boundaries and territorial sea baseline, and in the Australian Spatial Directory Infrastructure (ASDI) Program.

AUSLIG began in the 1970s using maps which were not well attributed. They are now aiming for quality data and accuracy of boundaries. They parallel the work of AGSO but use specialised software to compute the curved boundaries. Maps are based on provisional data stored in a GIS. AUSLIG data is being used for native title claims, treaties, customs issues, minerals exploration and fishing.

Validation of the data means that the baselines are changing because the data is better. Coastlines are also in a state of flux.

The group uses RadarSat in an R&D program to determine the lowest astronomical tide.

Preliminary data is available on line. It is generally for sale but is free to government agencies.

# **AUSLIG—Spatial Data Infrastructure Program**

Speaker: Steve Blake

ASDI is an attempt to break down islands of computing. It uses the ANZLIC model. Its aim is to maximise government investment in data and to act as a spatial data clearing house.

The benefits will be to avoid duplication, be coordinated, define and distribute standards and guidelines and develop a better spatial data infrastructure.

Next steps include finalisation of plans, endorsement, addressing of resource issues and working with others in existing programs.

#### 3. Environment Australia

# **Oceans Policy**

Speaker: Phil Burgess

The policy process includes consultation with stakeholders and interest groups, formation of committees and advisory groups, development of issues papers and draft policy. This policy should be finalised before Christmas. It will initially be a Commonwealth rather than a national policy. It is anticipated that the States will take a while to come on board. Although 90% of the area is under Commonwealth jurisdiction, the remainder is important and under State control. Therefore a relationship with the States is important. Implementation by the Commonwealth should lie somewhere between no control and full control. The Ocean Policy is too big to implement nationally in one go and an initial measure of its success will be seen in the management plan being developed for the south east region.

#### **ERIN**

Speaker: Shaska Martin

ERIN collate, store and manage databases. They purchase data and value add by entering it into databases. ERIN accesses data from a variety of sources including fisheries groups and APIA. They work to the portfolio marine group. They provide advice on programs and use internet and intranet to disseminate information. In the coastal area they have four internet projects: CoastNet, National Marine Information system, the coastal atlas and the Marine and Coastal Data Directory of Australia (Blue Pages).

Data activities include:

- collation, storage, management, analysis and presentation of data;
- use of GIS;
- policy support.

The group is currently holding an audit to determine future data collection requirements and to gauge how effectively data is being used.

Access to ERIN data is free.

# Marine Protected Areas

Speaker: Edward Kleverlaan

The main challenge for this group is in protection and long term conservation of marine biodiversity and ecological processes. Recognition of ecological values needs to occur before protection can take place. This means that sometimes protection does not occur until after damage has been done.

The group's current direction is in expanding the reserve system and establishment of marine protection areas. They want to engage industry more in their processes. The NRSMPA is endorsed by governments and is for the protection of rare and valuable species and communities. Its components include:

- · a strategic plan; which is underpinned by
- technical products (including guidelines and a database);
- the Marine Protected Areas program;
- jurisdictional cooperation and processes.

The group also conducts analyses to determine areas which are viable for protection. Funding comes from the NHT.

#### Biodiversity/wildlife

Speaker: David Kay

The focus of this group is mainly terrestrial, but in the marine area they have two important functions:

- · management of marine parks and reserves;
- · wildlife protection.

The group manages the public process that occurs before declaration of a park or reserve. Management plans are developed and appropriate title allotted.

Wildlife protection covers a range of species including mammals, birds and reptiles but not fish. It also protects endangered species.

Recovery plans include identification of threatening processes. The group controls trade in a range of species (not just fish) including kelp and similar species. Any harvest needs to be sustainable.

#### Marine Air and Water

Speaker: Sean Hutchins

This group works on protecting water and air quality. They recognise that the Commonwealth is only one voice and that EA needs to be realistic in its expectations. They develop guidelines for water protection, and work on catchment management, stormwater management and so on. The marine section works on coastal and port wastes, waste collection and reception facilities, and accident plans to reduce pollution. The group has participated in a workshop looking at ship based pollution to promote an sustainable marine environment. They have looked at the protocol to restrict dumping by ships.

Issues such as artificial reef regulation is covered by State water authorities.

#### 4. Attorney Generals Department

#### Role of AGs in marine and coastal environments

Speaker: Bill Campbell

This group has a support role in assisting other government agencies in development of their projects.

They administer a range of offshore legislation and are involved in development of international conventions (e.g. compulsory insurance for bunker fuels, maritime delimitation with NZ). They advise and assist other government agencies on legal matters.

It was noted that the States would like to have more responsibility but that the Commonwealth will not alter the basic situation as at present.

Current projects include:

- international issues with Indonesia and New Zealand;
- the sea bed mining code;
- the bunker fuels convention;
- advice on legal status of islands and reefs;
- application of native title;
- · work on pelagic sea lanes;
- advice on the Torres Strait Treaty.

#### 5. Department of Primary Industries and Energy

#### **Petroleum and Fisheries Division**

Speaker: Peter Smith

The role of this Division is to look after offshore industries. They have a regulatory role particularly with petroleum and want to promote the best use of resources.

Petroleum issues include the reform of petroleum legislation—including how they can jointly manage legislation with the States and reduce duplication—and work on developing objective based regulations, which are able to keep pace with new technology, rather than prescriptive regulations. The group is working on streamlining environmental accountability, doing audit work, regulation of the industry and some administrative work.

The Division is also involved in strategy and policy development e.g. multiple and sequential land use and the oceans policy.

They are mainly a user of data for policy development.

#### 6. Bureau of Resource Sciences

# **Advanced Research and Development Centre**

Speaker: Rupert Summerson

This group is interested in spatial information and the marine environment. Systems used in terrestrial work are inadequate to describe the ocean since oceans require three dimensions of sea bed, plus the water column and time. The group uses standard GIS where possible but also use 3-D for the sea bed, 3-D for the water column and animate it through time.

Next generation systems would be to develop an n dimensional system and to build in animation and time reference tools.

# Recent projects include:

- coastal zone management environmental resource management project;
- SE fishery;
- ecotourism on the Red Sea coast of Yemen;
- Prydz Bay;
- tracking elephant seals on the Kerguelen Plateau;
- CO<sub>2</sub> sources and sinks.

# Capabilities include:

- GIS:
- · modelling;
- · visualisation;
- multi-criteria analysis;
- · data mining;
- · social science;
- national data sets;
- · collaborative projects.

## **Petroleum Resources Branch**

Speaker: Paul Williamson

This group is an advisory body promoting sustainable development in the petroleum industry. Their clients include: DPIE, ABS, ATO, customs, AGs, EA, the States, AGSO and the public. They:

- provide advice on production (largely production and the cycle of processes feeding into it);
- support government policy;
- conduct prospectivity studies;
- monitor environmental impacts (stress monitoring);
- manage petroleum data and have access to metadata; and
- monitor industry developments (e.g. they produce *Oil and Gas Resources of Australia* each year).

## **Mineral Resources and Energy Branch**

Speaker: Ron Sait

The main relevant responsibility of this group to the forum is in providing advice on offshore minerals to DPIE. This is a very minor part of their total responsibility since there are very few offshore applications (64) and only 11 of these are active. The most active area is in the Joseph Bonaparte Gulf where there are 9 active applications.

Main areas of interest are in:

- sand and gravel (used for replenishment of beaches and possibly in the future for the construction industry in Sydney);
- · diamonds;
- · gold;
- phosphorites;
- · mineral sands; and
- tin.

Many applications are rejected on environmental grounds and there is no mining in any Commonwealth waters. Some mining takes place in State controlled waters.

#### **Fisheries Branch**

Speaker: Richard Tilzey

This group's mission is to promote sustainable development for the fishing industry. Its provides advice to the Minister, DPIE, AFMA, the fishing industry and to the public. The group liaises with stakeholders, conducts scientific research (not often getting wet hands), participates in fisheries assessment groups, reports on fishery status and disseminates information. They have five key result areas:

- monitoring the by-catch;
- · demersal fisheries;
- pelagic fisheries;
- evaluation of AFMA performance and fishery management;
- aquatic environment arena.

Examples of their projects include:

- Fishery Status Reports;
- stock assessment;
- · marine protected areas;
- turtle monitoring;
- extent of fishing;
- revision of deep sea resources;
- defining ESD.

#### 7. Australian National University

#### **Research School of Earth Sciences**

Speaker: Malcolm McCulloch

The research schools have block funding and hence have a flexibility which enables them to work on problems of national significance.

#### Research includes:

- investigating change (e.g. sea temperature change as evident in coral growth with indications to ENSO);
- geochemical characterisation and sediment fluid reactions:
- sorting of natural against non-natural changes (e.g. use of fertilisers).

The group is using geochemical tools from hard rock research including mass spectrometry, and dating and sampling of sediments.

Examples of research include:

- looking at the southern-most reefs from Lord Howe Island;
- examining nutrients in sediments around the Great Barrier Reef and looking at implications with respect to bleaching of corals.

The group's interest is in high quality research rather than data collection.

#### 8. CSIRO

## Land and Water Division

Speaker: Myriam Bormans

This group is researching delivery of sediments and nutrients from the whole catchment to estuaries. They are multidisciplinary, have field and laboratory capability and can manage large teams and data sets.

Projects concentrate on:

- the different processes; identifying sources for phosphorus and nitrogen using tracing and dating methods. In the river systems they are looking at transport and transformation of nutrients in both the water column and in the water sediment interface. They are also examining algal growth dynamics.
- (within estuaries) suspended sediment and processes in the water column, flocculation and settling, absorption and disorption of dissolved particles, flux to and from the sediment, heavy metals, stratification and mixing.

The group is building process based numerical and analytical models.

Projects include work in: Port Phillip, Bega estuary, Lake Illawarra, Gippsland lakes, Macquarie Harbour and Herbert River.

It was noted that neither CSIRO nor AGSO are investigating organic chemicals. CSIRO would like to do some collaborative work. AGSO has the capability for this research, but noted that pesticides are only of local interest since they are very particle reactive and tend to accumulate in sediments.

It was noted that work between CSIRO and AGSO is fairly complementary; CSIRO works on physics of nutrients and biological while AGSO focuses on heavy metals as well as nutrients.

#### 9. Australian Defence Forces Academy

# **Oceanography Group**

Speaker: Peter Holloway

This group does basic and applied research. Some of their projects are:

- estuarine and coastal circulation—numerical modelling and observational work looking at physical processes, circulation, flushing mechanisms, biological and physical interactions;
- surf zone processes—use of video imaging techniques and modelling, effect of hydrodynamics on beach morphology;
- continental shelf oceanography—modelling and observation on the NW Shelf looking at tidal flows and internal waves.

The group uses AGSO data.

ADFA interacts with other research establishments at an individual level. In particular they work with CSIRO and the University of WA.

# Geography and Oceanography

Speaker: Clifford Hearn

This group has developed a software package—SPECIES—which is a marine numerical model used to calculate water flow in coastal ocean. The model can be incorporated into environmental decision making. It is currently being used in studies in Sydney Harbour prior to the Olympics. It can also be used for research and education.

The software looks at changes in tides, sediment movements, high water, nutrient uptake. It has facility to run the model and to improve 3-D visualisation. The group has a multicomputer setup with number crunching occurring on a distant computer and the ability to interface with distant data sets. SPECIES is currently used around the world for research and in work by community groups. It has a user friendly interface.

#### 10. Aquatech

## Environment, economics and information

Speaker: Laslo Nagy

Aquatech is a private organisation providing personnel and consultancy services in environmental, economic and information management.

They have worked in water quality monitoring, developing an Australian directory of coastal and marine programs, and baseline monitoring.

They work out of Canberra and Sydney/Newcastle.

#### 11. Australian Marine Safety Authority

Navigational service policy and planning

Speaker: Fiona Thorburn

AMSA's mission is to enhance safety and to protect the marine environment. Although begun as a part of the APS they are now entirely self funded. AMSA has six business units:

- ship and personnel safety;
- · search and rescue;
- engineering and maintenance—including navigational aids, GPS and ship operations;
- · corporate and commercial;
- marine environment protection service;
- international strategy development.

AMSA works in pollution prevention (e.g. REEFREP for protection of the Great Barrier Reef); disaster prevention and relief.

## 12. Australia Fisheries Management Authority

Speaker: Katrina Maguire

AFMA is a statutory authority which works on a cost recovery basis. They administer the two fisheries Acts and provide advice to the Fisheries Research and Development Corporation. AFMA has three branches:

- fisheries (which includes 22 sections plus an environmental section);
- operations (covering surveillance and compliance of Australian and foreign vessels, observations, licensing, research and administration);
- strategy and planning (covering communications, human resources, legal issues).

AFMA has an advisory committee which includes conservation, industry, recreation and research representatives.

Their Fisheries Assessment Groups are used for stock and economic assessment of target species, for information on non-target species, work on by-catch policies and environmental information.

ABARE and BRS feed information into the AFMA stock assessments

# 13. Australian and New Zealand Land Information Council

## Marine Data and Australian Spatial Data Infrastructure

Speaker: Graham Baker

ANZLIC provides leadership in management of data gathered to enhance sustainable use of resources. Its overall aim is to make data accessible. The Council has representatives from the States and Territories and links to New Zealand. The data is maintained by AUSLIG. The inclusion of marine data is a recent extension of its activities.

ASDI is more than just data. It determines needs at a national level and includes:

• policy and administrative arrangements to make the data more accessible;

- · compilation of standards;
- improvement of access through distributed networks.

It is important to note that:

- ASDI offers a framework for data management;
- all data is retained by the custodians;
- · access is provided through the network;
- there is no compulsion to be a part of it.

#### 14. Australian Heritage Commission

Speaker: David Cameron

This group is involved in protection of historical, indigenous and natural artefacts on Commonwealth (not private) property. They are interested in impacts of development. The AHC has some 11 000 places listed on its register. Under their Coastal Oceans Heritage program they coordinate government policy, process NHT applications, identify heritage values and ensure preservation, and encourage participation in protection. They also work in shipwreck research and preservation. Of relevance to oceans and coasts are some of the indigenous dreaming sites which span water and fish traps, the ship wrecks, lighthouses and Tasmanian sea mounts.

These sites are tied to tourism (a fast growing industry). They are also linked to the economy and who we are.

# **DISCUSSION & WRAP UP**

Led by: Phil Diprose, Steve Blake and Neville Exon with Howard Stagg

Discussion was centred on where the group should go from here and in particular how to maintain contact. Suggestions included:

- an occasional seminar series;
- creation of a Marine Forum web page;
- regular meetings;
- use of list server to maintain contact;
- links between individual groups' web pages;
- advertisement of relevant seminars from each group through the list server.

#### Outcomes:

- AUSLIG volunteered to set up a list server.
- Phil Diprose, Steve Blake, Neville Exon and Rupert Summerson volunteered to act as a steering committee.
- The group as a whole agreed to meet and communicate on an as needs basis on issues relevant to all in the group.
- A decision to call the group the Canberra Marine Forum was made.
- The need for coordination between groups to avoid duplication was recognised.

• The group decided that they wanted to consolidate before going further afield (e.g. to the States).

Other discussion included the need to involve industry in the Marine Science and Technology Strategic Plan.

# Contact List - Canberra Forum Participants

NAME	EMAIL	ADDRESS
BAKER, Graham	anzlic@auslig.gov.au	ANZLIC, PO Box 2 Belconnen, ACT 2616
BLAIR, Sandy	Sandy.Blair@ea.gov.au	Australian Heritage Commission, EA GPO Box 1567, Canberra ACT 2601
BLAKE, Steve	SteveBlake@auslig.gov.au	SDI Implementation, AUSLIG PO Box 2, Belconnen, 2616
BOND, James	James.Bond@amsa.gov.au	AMSA, 25 Constitution Ave, Campbell ACT 2612
BORMANS, Myriam	myriam.bormans@cbr.clw.csiro.au	CSIRO Land & Water, Clunies Ross St, GPO Box 1666,Canberra ACT 2601
BURGESS, Phil	Philip.Burgess@ea.gov.au	Marine Strategy, Ocean Policy, Environment Australia, GPO Box 787, Canberra ACT 2601
CAMERON, David	David.Cameron@ea.gov.au	MTA House, 39 Brisbane Ave, Barton ACT 2600
CAMPBELL, Bill	Bill.Campbell.@ag.gov.au	International Law, Attorney Generals, GPO Box 787, Canberra ACT 2601
DIPROSE, Phil	phil.diprose@dist.gov.au	Science & Technology Policy Section, DIST, GPO Box 9839, Canberra ACT 2601
EXON, Neville	Neville.Exon@agso.gov.au	Seabed Mapping, AGSO, PO Box 378, Canberra ACT 2601
HEARN, Clifford	clifford.hearn@adfa.edu.au	Oceanography, University College, ADFA, Canberra ACT 2600
HEGGIE, David	David.Heggie@agso.gov.au	Urban Coastal Impacts, AGSO, Canberra PO Box 378, Canberra ACT 2601
HIESER, Jo	josephine.hieser@ea.gov.au	Water Quality Protection Section, Air & Water Quality Br, GPO Box E305, Kingston, ACT 2604
HIRST, Bill	billhirst@auslig.gov.au	Maritime Boundaries Program, PO Box 2, Belconnen ACT 2616
HOLLOWAY, Peter	Peter.Holloway@adfa.edu.au	Physical Oceanography, School of Geography & Oceanography, ADFA, Canberra ACT 2600
HUTCHENS, Sean	sean.hutchens@ea.gov.au	Environment Australia, EPG, PO Box E305, Kingston ACT 2604
IRWIN, Rebecca	Rebecca.lrwin@ag.gov.au	Public International Law, Attorney Generals, GPO Box 787, Canberra ACT 2601

# Contact List - Canberra Forum Participants Cont'd

NAME	EMAIL	ADDRESS
KAY, David	david.kay@ea.gov.au	Environmental Australia, GPO Box 636, Canberra ACT 2601
KRIKOWA, Frank	Krikowa@science.canberra.edu.au	University of Canberra, PO Box 1, Belconnen ACT 2616
LEVEN, Jim	Jim.Leven@agso.gov.au	Seabed Mapping, AGSO
MAGUIRE, Katrina	katrina.maguire@afma.gov.au	AFMA, PO Box 7051, Canberra Mail Centre, ACT 2601
MAHER, Bill	maher@science.canberra.edu.au	University of Canberra, PO Box 1, Belconnen ACT 2616
MARSHALL, Graeme	robmarsh@appea.com.au	Environmental Projects, GPO Box 2201, Canberra ACT 2601
MARTIN, Shaska	shaska@erin.gov.au	Marine & Coasts, ERIN GPO Box 787, Canberra ACT 2601
MATHIAS, John	John.Mathias@adfa.edu.au	School of Geography & Oceanography, ADFA, Campbell ACT 2600
McCULLOCH, Malcolm	Malcolm.McCulloch@anu.edu.au	RSES, Australian National University, Canberra ACT 2000
NAGY, Laslo	aquatech@aquatech.com.au	Aquatech, 42 Jaeger Circuit, Bruce ACT 2617
PIGRAM, Chris	Chris.Pigram@agso.gov.au	Petroleum & Marine, PO Box 378, Canberra ACT 2601
SAIT, Ron	ron.sait@brs.gov.au	Mineral Resources & Energy Branch, BRS, PO Box E11, Kingston ACT 2604
SHULKINS, Carolyn	cshulkin@appea.com.au	Environment, APPEA, GPO Box 2201, Canberra
SMITH, Peter	peter.r.smith@mailhost.dpie.gov.au	Legislation and Enviro.Section, Pet. Exploration & Dev. Br. PO Box 858, Canberra ACT 2601
STAGG, Howard	Howard.Stagg@agso.gov.au	Law of the Sea, AGSO, PO Box 378, Canberra ACT 2601
SUMMERSON, Rupert	rupert.summerson@brs.gov.au	Advanced Research & Development Centre, BRS, PO Box E11, Kingston ACT 2604
SWAYNE, Stephen	stephen_swayne@nmr.defence.gov	Hydrographic Surveying & GIS Dataset .: Mangt, CP1 - 6 - 03, Campbell Park, Canberra 2601

# Contact List - Canberra Forum Participants Cont'd

NAME	EMAIL	ADDRESS
SYMONDS, Phil	Philip.Symonds@agso.gov.au	Law of the Sea, AGSO, PO Box 378, Canberra ACT 2601
THORBURN, Fiona	fiona.thorburn@amsa.gov.au	Navigation Services, Policy & Planning, AMSA, GPO Box 2181, Canberra ACT 2601
WEST, Barry	barry.west@brs.gov.au	Information Resources, BRS, PO Box E11, Kingston ACT 2604
WILLIAMSON, Paul	paul.williamson@brs.gov.au	Petroleum Resources, BRS, PO Box E11, Kingston ACT 2604